

**JOB DESCRIPTION FOR PROFESSIONAL POSTS**

*The following job description should be completed in duplicate and forwarded through your Departmental Administrative Officer to the Division of Personnel when (1) a classification review of an existing post is proposed, (2) a new post is established requiring classification and recruitment action, or (3) the duties of a post have changed significantly. Where there is an incumbent in the post, the description should be completed jointly by the incumbent and immediate supervisor. If the post is vacant, the immediate supervisor should complete the description. Considerable care should be given in completing the job description as it will serve as the primary source of information in evaluating the grade level of the post and in preparing the vacancy notice.*

**Part I. GENERAL DATA****1. This job description is being submitted for the purpose of:**

- a) Requesting a review of the classification
- b) Issuing a vacancy announcement
- c) Redescribing the duties of an existing post
- ☒ d) Other (please explain): **CFE Type A**

**2. Location of post:**

- a) Department **Department of Safeguards**
- b) Division **Safeguards Information Technology (SGIT)**
- c) Section **SGIT/IIS**
- d) Unit **Na**

**3. Functional title and current grade of post: Application Integration Specialist P-5****CCOG code:****4. Present incumbent's name:****Former incumbent's name: n.a****If new post, please indicate  
date of establishment:****5. Incumbent's supervisor**

- a) Name **Malcolm Nicholas**
- b) Functional title **Section Head**
- c) Grade **P5**

**6. Date post was last reviewed: n.a.**

7. List the major changes in the duties of the post which have taken place since the last review. Note that existing posts will not be reviewed for reclassification purposes unless the duties and responsibilities have changed substantially since the current grading of the post was established and appear to be of a lasting nature. For reclassification procedures please refer to AM II/3, paragraphs 31-34.

**>Not applicable**

8. Please show under this item the organizational structure of the Division. This can be done easily by inserting in the blank boxes the appropriate information. The "organizational" chart should show specifically (a) where the post is located in the hierarchy of the Department, (b) who reports to the post holder, (c) to whom the post holder reports.

Department level: **Department of Safeguards**

Division level: **SGIT**

Section level: **IIS**

**Position**

9. If applicable, please list characteristic quantitative data relevant to the post. For example, in the case of an Editor, the number of pages edited may be of relevance for determining time spent on a task.

**The Department monitors information for over 100 countries and prepares annual evaluation reports on Safeguards compliance for those States. The incumbent participates in the work of the Section, which collects and analyses information from over 200 different external sources and over 40 different internal collections, nuclear material accounting information from about 1000 material balance areas in over 70 Member States, and State Declared information from the following Reporting Scheme (8000 records), Illicit Trafficking Database (350 incidents) and the Neptunium and Americium database (100 records). Based on analytical processes in the Department the incumbent identifies and implements information applications and systems to improve the collection, processing, analysis and dissemination of information to customers in Safeguards. Systems should be implemented to support the Integrated Safeguards Information System, (ISIS) under the ISIS Re-engineering Project.**

10. What are the main purposes (objectives) of the post? (Overall role/functions of the post with stress being placed on the more important aspects.)

**>The main objectives of the post are to contribute to the establishment of an analysis friendly information architecture designed to enhance the Departments overall information analysis architecture. Specific areas that need to be addressed include data extraction, data visualization and link analysis, summarization and clustering, advanced machine translation, name matching and phonetic interpretation, parallel search capabilities and the creation of an analysis interface or portal.**

The incumbent should have extensive experience in several of the following functional areas:

**Data extraction** – to provide for automated entity extraction from unstructured data the most relevant information to our needs including entities such as people, places, companies, dates and events, etc. To extract semantic content from textual data the incumbent should possess the ability to establish algorithms, rules sets, taxonomies, etc. in order to exploit the hundreds of sources and open source documents reviewed by our information analysts daily.

**Data visualization and link analysis** – This application integrated with data extraction would allow for detailed analysis of extracted entities to establish relationships or links between same entities, (i.e. people, places, companies, dates, events, etc.) The Department could track past activities/ entities as they potentially relate to future proliferation activities. Experience with this technology would minimize the amount of manual work currently associated with these tasks.

**Summarization and clustering technologies** - These technologies are needed for extracting the essence of large document sets and summarizing the contents usually in a single paragraph. Automatic visualization through the use of clustering technologies would allow information analysts to be more effective and efficient with their open source searches.

**Advanced Machine Translation** – This application will provide for the effective machine translation of non-English documents. The rapid translation of large volumes of documents in various non-English languages and of a quality that would enable information analysts to understand the substance sufficiently enough for analytical purposes.

**Name matching and phonetic interpretation** – Experience with name searching and matching engines would provide information analysts with precise, ranked results based on cultural patterns of variation and reduce problems for analysts in performing comprehensive search queries on names that have multiple spelling permutations.

**Parallel search capability** – experience with these applications would allow information analysts to simultaneously search multiple websites and databases including a large portion of the internet which is difficult to access. This will save analysts time and allow more information to be accessed and analysed.

**Analyst's portal** – formation of a central, easy to use interface or portal for information analysis to comprehensively access all analytical tools.

**Ability to liaise with proliferation and safeguards analysts, other IT specialists and various levels of management.** The incumbent must be able to collect user requirements and convert to design specifications. High level communication skills are also required.



## Part II. JOB DESCRIPTION

### *Guidelines for Preparation:*

*This form is intended to obtain information about the job and not about the individual who may occupy the job, although it may be difficult to separate the job from the incumbent. Supervisors should ensure that the form describes the characteristics of the job that needs to be done and not the characteristics of the person doing the job. It is suggested that the description of each major duty begin with an action verb.*

### **READ THROUGH THE ENTIRE FORM BEFORE STARTING TO COMPLETE IT**

1. Summarize the major duties and responsibilities of the position in order of importance and indicate in the margin the percentage of time spent on each (most jobs contain no more than 5 or 6 major responsibilities). First state what is being done, then how it is being done.

% of time:      Duty/responsibility:

40	Participation in the development of analytical processes and elicitation of user requirements. Integration and customisation of advanced end to end analytical tools systems and applications, development tools, application packages and designs consistent with the IAEA standards; where appropriate develop prototypes to facilitate user understanding; liaise with information analysts for current and future requirements;
35	Provide technical support and maintenance for information analysis applications; analyse and implement revisions based on changing user requirements; evaluate new application packages.
15	Implement information tools administration functions
10	Provide user training on information analysis software

2. What are the minimum knowledge requirements of the job? (These need not be equivalent to those of the present incumbent.)

Level and field of study of university degree (or the equivalent acquired through training or self-study)

**Advance degree in computer science, Information science, Natural language processing, computational linguistics, artificial intelligence engineering or related field of study.**

Minimum length and type of practical experience required:

**University degree or equivalent experience in Computer Science;**

**At least 10 years experience in information technology, information systems and database development and maintenance in a commercial/administrative/industrial environment, familiarity with the software engineering life-cycle for development and the concepts and practices required to implement effective information analysis systems.**

- at national level
- at international level

Language(s):

- proficiency required
- other languages preferred

**English**

3. Work Role: What does the job require the incumbent to do (i.e. describe the analysis, interpretation, adaptation, innovation, planning, co-ordination, and directing that the job requires)?

- **Formulate project plans based on sound business cases and needs analysis.**
- **Assess developments in information analysis applications for possible utilisation**
- **Make recommendations on acquisition of information analysis applications, system architecture**
- **Test, document and implement analysis applications**

4. What subject matter (diversity of work) does the job cover and what is the depth of treatment of the subject matter?

**>The incumbent must have an in-depth knowledge of information analysis processes and systems and have design and development experience in a Windows environment. A working knowledge of Microsoft Access and SQL Server is highly desirable. Experience with information analysis software applications, tools and design methodology is desirable.**

5. Describe the control exercised or guidance given by the supervisor in terms of planning, controlling and reviewing the incumbent's work, e.g. how often do you meet, how are priorities handled, how is work achieved, how are instructions given.

**>Operates within a supervised environment with periodic review of objectives and outcomes by higher level professionals. Incumbent is expected to function effectively across tasks within scope using available tools, methodologies and/or equipment, with only infrequent reference to others. Within a limited time horizon, is able to establish action plans, schedule, and monitor own work competently.**

6. Indicate which regulations, manuals, precedents, policies, or other administrative and technical guidelines apply to the incumbent's work, and to what extent the incumbent is permitted to interpret, deviate from, or establish new guidelines:

**>Information technology standards as developed by IAEA. The incumbent participates in the revision of guidelines for the development of applications in the light of current developments in information analysis and processing systems.**

7. With whom (indicate title only), for what purpose, and how often is the incumbent required to have contacts in the job? (Describe the most typical, not the most unusual, contacts, e.g. to obtain information, to seek funding, to commit the Agency on .....)

	<u>Person(s) title</u>	<u>Purpose</u>	<u>How often?</u>
Inside the IAEA	<b>SGIT</b>	<b>Information Analysis,</b>	<b>Daily</b>
	<b>SGIT</b>	<b>Understanding existing information landscape, standards and evolution</b>	<b>Periodically</b>
			<b>Periodically</b>

Operations		Understanding user's needs	
MTIT/SGIT		Understanding user's needs	Periodically
Outside the IAEA	Member States	Coordination of Software	Periodically
	Technical Support Teams	Standards	
	Computer Vendors	Review of Software Products	Periodically

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8. Describe the most important type(s) of decisions the incumbent is authorized to take and why these are important:

>Decisions affect the acquisition and implementation of information and analysis systems, in particular the technical soundness and reliability and hence the acceptability to users and the success of the implementation. They directly affect the efficient and economic utilisation of computer and other Agency resources.

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9. Describe the most important types of proposals expected of the incumbent in the job and why these are important:

>The incumbent makes proposals that affect the methods used in a complex information analysis environment. These proposals are important as they directly affect the Department of Safeguards programmes and may save resources/costs and enhance the overall information analysis capability of the Department.

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10. Describe the most damaging involuntary error(s) that could be made in the work and the effect(s) that would result:

>Oversights in the implementation could lead to the system's not meeting user's requirements or to inefficient use of resources. Errors in the implementation can cause breakdown of production systems, impacting SGIT's information analysis system. Expenditures on tools and other resources that will never be of use. Incorrect output resulting from the system designed and implemented by the incumbent may, if used as an official source, significantly damage the credibility of the IAEA.

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11. Total staff in organizational units supervised by incumbent. (Note: "supervised" means "held accountable for the work.") This is the only factor that is not applicable to all posts.

Professional and higher level staff		Technical and administrative support staff	
<u>Grade level</u>	<u>number</u>	<u>Grade level</u>	<u>number</u>
n.a.		n.a.	

This is an accurate and complete description of the details of the job.

\_\_\_\_\_  
Incumbent

\_\_\_\_\_  
Date

Printed name: \_\_\_\_\_



**Director-SGIT**

\_\_\_\_\_  
Division Director

\_\_\_\_\_  
Date

Printed name: **J. Baute**

**Head, IIS**

\_\_\_\_\_  
Immediate  
Supervisor

*Malcolm Nicholas* 25.07.06

\_\_\_\_\_  
Date

Printed Name: **Malcolm Nicholas**

**SG**

\_\_\_\_\_  
Administrative  
Officer

*A Baute-Wiles*

0607c

\_\_\_\_\_  
Date

Printed Name: **A. Baute-Wiles**

(Personnel - JD/P Apr. 1998)

